

- 1 16. (New) An electron optical column as in claim 1, further comprising:  
2 a first focus lens;  
3 wherein said detector is situated within the bore of said first focus lens.
- 1 17. (New) An electron optical column as in claim 3, further comprising a second focus lens  
2 positioned axially adjacent to said first focus lens.
- 1 18. (New) An electron optical column as in claim 4, wherein said first and second focus  
2 lenses are electrostatic lenses.
- 1 19. (New) An electron optical column as in claim 1, further comprising a scanning deflector  
2 situated above said detector.
- 1 20. (New) An electron optical column as in claim 6, wherein said scanning deflector  
2 comprises a first deflector and a second deflector configured to provide telecentric scanning of  
3 said electron beam on said specimen substrate positioned below said voltage contrast plate.
- 1 21. (New) An electron optical column as in claim 7, wherein said scanning deflectors are  
2 electrostatic deflectors.
- 1 22. (New) An electron optical column as in claim 7, wherein said scanning deflectors are  
2 octupole deflectors.
- 1 23. (New) An electron optics assembly for a multi-column electron optical system  
2 comprising:  
3 means for generating a multiplicity of electron beams;  
4 a single voltage contrast plate with a multiplicity of plate apertures, such that there is a  
5 corresponding plate aperture for each column, the edges of said plate apertures are beveled at an  
6 angle so as to produce electric field free regions below said apertures on the surface of a wafer  
7 situated immediately below said voltage contrast plate; and  
8 a multiplicity of annular secondary electron detectors centered on the optic axes of

9 corresponding columns and positioned above said voltage contrast plate.

1 24. (New) An electron optics assembly as in claim 10 further comprising a focus plate  
2 situated between said voltage contrast plate and said multiplicity of detectors, said focus plate  
3 having a multiplicity of focus apertures configured such that there is a corresponding focus  
4 aperture for each column.

1 25. (New) An electron optics assembly as in claim 10 further comprising:  
2 a first focus plate, said focus plate having a multiplicity of first focus apertures  
3 configured such that there is a corresponding first focus aperture for each column;  
4 wherein said detectors are situated within corresponding first focus apertures.

1 26. (New) An electron optics assembly as in claim 12 further comprising a second focus  
2 plate positioned adjacent to said first focus plate, said second focus plate having a multiplicity of  
3 second focus apertures configured such that there is a corresponding second focus aperture for  
4 each column.

1 27. (New) An electron optics assembly as in claim 10 further comprising a multiplicity  
2 of scanning deflectors situated above said detectors, such that there is a corresponding scanning  
3 deflector for each column.

1 28. (New) An electron optics assembly as in claim 14 wherein each said scanning deflector  
2 comprises a first deflector and a second deflector configured to provide telecentric scanning of  
3 said electron beams on a specimen substrate positioned below said voltage contrast plate.

1 29. (New) An electron optics assembly as in claim 15 wherein each said scanning deflector  
2 is an electrostatic deflector.

1 30. (New) An electron optics assembly as in claim 15 wherein each said scanning deflector  
2 is an octupole deflector.